Dan Nickey

Iowa Waste Reduction Center

at the

University of Northern Iowa

319/273-8905

http://www.iowadnr.gov/air/prof/NESHAP

Area Source Standards: Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities

40 CFR Part 63, Subpart 6B

Overview

- Why the new rule?
- Affected sources
- Rule summary of 6B
  - Compliance dates
  - Rule requirements
  - Recordkeeping requirements
  - Reporting requirements
- Review of new state permit template
- Overview of new compliance calendar/log book

Implementation Group

- Formed in March 2008
- Cooperative efforts among
  - DNR Air Quality
  - Iowa Waste Reduction Center, UNI
  - Department of Economic Devolvement
  - Linn & Polk County Programs
  - Impacted stakeholders

Why Area Source NESHAP?

The federal Clean Air Act (CAA) requires EPA to:

- Reduce public's exposure to Hazardous Air Pollutants (HAPs)
- Set standards for the listed 70 area source categories
- Identify and list at least 30 HAP that pose the greatest risk in urban areas (EPA identified/listed 33)
- Identify and list area source categories (industries or operations) that represent 90% of the 33 urban HAP emissions (EPA's "urban air toxics strategy")
- Set standards for the listed area source categories

6B affected sources

- Adopted into the IAC in March (567 IAC 23.1(4)"eb")
- Rule applies to:
  - Gasoline Terminals ($\geq$ 20,000 gal/day potential throughput)
    - Most are permitted, some are Title V facilities
  - Pipeline breakout station
  - Pipeline pumping station
  - Gasoline Bulk Plant ($<$ 20,000 gal/day potential throughput)

Potential Terminal Requirements

- Tanks must have floating roofs or vent to control device
- Emission control device on (tanks) loading rack
- Leak detections on tanks
- Monthly inspections
- Throughput monitoring
- Emissions testing

6B – What is a bulk plant?

- Gasoline Bulk plants are:
  - Intermediate storage facilities of gasoline
  - Often located in rural areas
  - May also store and handle other petroleum products
  - Often associated with a grain elevator
  - Usually unpermitted (some may have permitted storage tanks)

6B – What is a bulk plant?

- Gasoline bulk plants do not distribute gasoline directly to motor vehicles.
- A gasoline dispensing facility (GDF) may be co-located at gasoline bulk plant.
- The GDF would be subject to 6C requirements and would have separate requirements.

6B – What is gasoline?

- Any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines. – 40 CFR 60.501
- 27.6 kilopascals = 4 psi
- Gasoline/Ethanol blends up to E85 have v. p. > 4 psi
- Vapor pressure 100% ethanol is at 2.32 psi (100 F)

Source of Emissions from Bulk Plants

- Tank truck unloading into storage tanks (usually above ground)
  - Working loss
- Storage tanks
  - Breathing loss
- Loading of gasoline into tank wagons/cargo tanks at a loading rack
- Leaks
- Emissions are volatile organic compounds (VOCs) and hazardous air pollutants (HAPs)

Compliance Dates

- New facilities (constructed after Nov. 9, 2006):
  - Compliance: January 10, 2008 or upon startup if startup occurs after January 10, 2008
- Existing facilities: (not a new facility)
  - Compliance: January 10, 2011

6B – Rule requirements

- Facilities must minimize vapor emissions of gasoline by:
  - Minimizing gasoline spills
  - Cleaning up spills expeditiously
  - Cover any open gasoline containers and tank fill pipes
  - Minimize gasoline sent to open waste collection systems (e.g. oil/water separators)

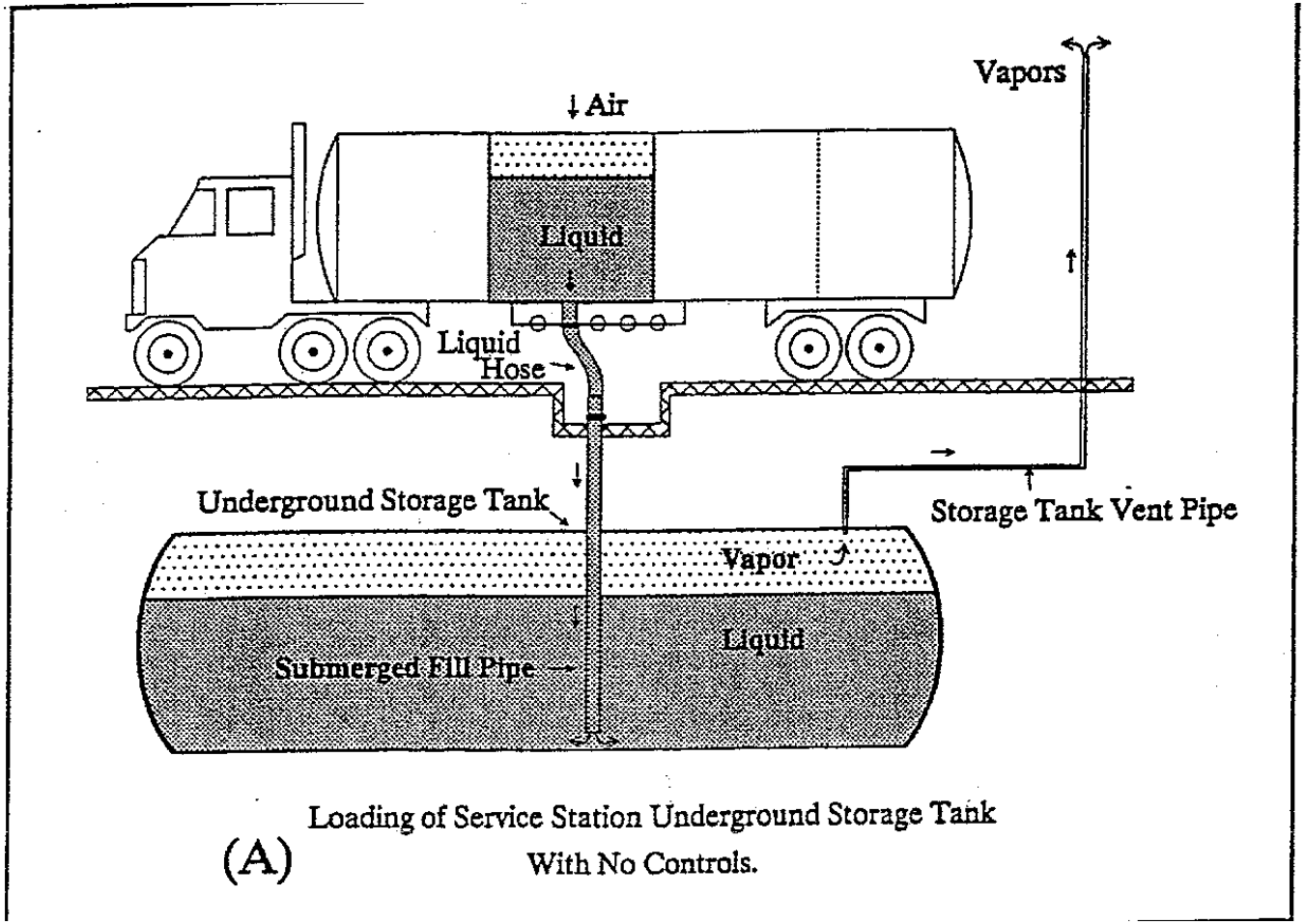
Gasoline Storage Tank – Requirements

- Gasoline storage tanks ≥ 250 gallons must be equipped with submerged fill.
- Bottom loading is a type of submerged fill.
- Fill pipe (drop tubes) installed before 11/09/06 – no more than 12 inches from bottom
- Fill pipe (drop tubes) installed after 11/09/06 – no more than six inches from bottom
- Important: Bulk plants are not required to have vapor balancing systems

Gasoline Cargo Tank – Requirements

- Cargo tanks must be loaded via submerged fill.
- Bottom loading is a type of submerged fill.
- Fill pipe (drop tubes) installed before 11/09/06 – no more than 12 inches from bottom
- Fill pipe (drop tubes) installed after 11/09/06 – no more than six inches from bottom
- Important: Bulk plants are not required to have vapor balancing systems

6B – Storage tank/submerged fill



Loading of Service Station Underground Storage Tank
(A) With No Controls.

6B – Rule requirements

- Monthly inspection on all equipment in gasoline service.
  - Include pumps, valves, open-ended lines and connectors.
  - Detection methods using sight, sound and smell are acceptable
  - Analyzers can be used for leak detection.
- Leaks must be repaired as soon as practicable.
  - Initial attempt within 5 calendar days of detection
  - Repair completed within 15 calendar days of detection

Recordkeeping Requirements

- Facility must keep following records:
  - Monthly/daily gasoline throughput
  - Location and identification of equipment in gasoline service
  - Monthly leak inspection records
    - Date of inspection
    - Name of staff conducting inspection
    - Signed by owner/operator

Recordkeeping Requirements

- For leaking components:
  - Identification of leaking component and location
    - written description
    - tagged
    - photographs
    - diagrams
    - work orders
  - The nature of the leak and the method of detection (sight, smell or sound)

Recordkeeping Requirements

- Date of leak detection and repair attempts
- Repair methods applied in each repair attempt
- If not repaired after 15 calendar days, the reason for delay
- The date of the successful repair

- Important to document all repair/replacement work for leaking equipment in gasoline service.
- Records required by 6B must be retained 5 years with most recent 2 years on-site.
- Throughput records must be for retained 2 years.

Reporting Requirements

- Initial Notification
  - Existing sources: must be submitted to DNR by May 9, 2008 (DNR is still accepting notifications at this time)
  - New sources: must be submitted no later than 180 days after startup
  - Purpose: Informs DNR that your facility is regulated by 6B
- Notification of Compliance Status
  - Existing sources: must be submitted to DNR by January 10, 2011
  - New sources: must certify compliance at the same time they submit the initial notification
  - Purpose: Informs DNR that your facility is in compliance

Reporting Requirements

- Semiannual “excess emissions” reports to Iowa DNR for:
  - Equipment leaks not repaired within 15 days or where no attempt made within 5 days:
    - Date leak was detected
    - Identify leaking components
    - Date of each repair attempt
    - Reasons for delay of repair
    - Date of successful repair
- If no leaks or no “excess emissions”, no report is required.

Sources Impacted

- Estimate between 100 and 200 bulk plants
- Under 6B, the only difference between a bulk plant and a terminal is if “maximum calculated design throughput” is greater than or less than 20,000 gallons per day.
- Air permit can be used to limit potential throughput so that a “true” bulk plant does not have to comply with additional requirements for terminal.

Compliance Strategy

- Develop permit template (i.e. general permit) to limit daily/monthly throughput of gasoline
  - Small bulk plant < 20,000 gallons/month
  - Large bulk plant < 20,000 gallons/ day
  - Permit format would be similar to concrete batch plant/ grain elevators
    - Company fills out application
    - After application is reviewed and approved by AQB, it is returned to applicant as permit
    - Will cover all storage tanks and loading racks at the bulk plant

Permit Template

- Permit will contain all requirements from rule.
  - These requirements go into effect on January 10, 2011.
- Permit will also contain either monthly or daily gasoline throughput requirement.
  - These limits go into effect on permit issuance.
- Remember:
  - Records required by 6B must be retained 5 years with most recent 2 years on-site.
  - Throughput records must be for retained 2 years.

Iowa Department of Natural Resources

Permit Template

Potential Issues

- Facility has other equipment besides gasoline bulk plant
  - Other equipment – permit or exempt
  - Maybe general permit is not appropriate
- Facility owns/operates another facility that is contiguous or adjacent to bulk plant
  - Consider as a single source
- Facility not yet in compliance with 6B
- Future modifications

Compliance Timeline

- Finalize permit templates this year
- Finalize compliance calendar/log book this year
- Provide assistance workshops in winter/spring of 2010 to complete applications
- Submit applications spring/summer of 2010
- Issue permits in fall of 2010 prior to compliance date of January 10, 2011
- Comply with 6B requirements by January 10, 2011

Compliance Calendar/Log Book

2010/2011

Compliance Calendar for Small Gasoline Distribution Bulk Plants (Less Than 20,000 gallon/month throughput)

Created by the Iowa Waste Reduction Center Iowa Air Emissions Assistance Program

Goals of Calendar/Log Book

- Reminder to complete:
  - Leak inspection
  - Throughput reading
- Education tool
  - SPCC Requirements
  - 6B Rule
- Record keeping tool (documentation)
  - Leak inspection
  - Leak detection
  - Throughput amounts
- Applicable contacts

Calendar Format

Iowa Air Emissions Assistance Program

2010/2011 Compliance Calendar for Gasoline Distribution Bulk Plants

January 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24 31	25	26	27	28	29 Monthly Inventory Totals Recorded ❑ Monthly Inspection Conducted ❑ Record Results in Logs ❑	30

Storage Tank Equipment List

STORAGE TANK – EQUIPMENT LIST

*Table includes tanks of >250 gallons

Tank ID	Material Stored	Tank Capacity (gallons)	Date of Installation	Loading Method(1)
	❑ Gasoline(2) ❑ Fuel Oil(3) ❑ Other liquid:			❑ Top load, splash fill ❑ Submerged fill(4) (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill(4) to within 6″ of bottom
	❑ Gasoline(2) ❑ Fuel Oil(3) ❑ Other liquid:			❑ Top load, splash fill ❑ Submerged fill(4) (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill(4) to within 6″ of bottom
	❑ Gasoline(2) ❑ Fuel Oil(3) ❑ Other liquid:			❑ Top load, splash fill ❑ Submerged fill(4) (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill(4) to within 6″ of bottom
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	❑ Gasoline(2) ❑ Fuel Oil(3) ❑ Other liquid:			❑ Top load, splash fill ❑ Submerged fill(4) (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill(4) to within 6″ of bottom
	❑ Gasoline(2) ❑ Fuel Oil(3) ❑ Other liquid:			❑ Top load, splash fill ❑ Submerged fill(4) (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill(4) to within 6″ of bottom

(1) Bottom filling is considered to be a type of submerged filling.
(2) Includes all blends of gasoline (e.g. E10, E85, gasohol)
(3) Includes fuel oil grades No.1 through No.6, kerosene, and diesel fuels.
(4) For tanks storing gasoline, submerged fill pipes installed before November 9, 2006 must be no more than 12″ from the bottom of the tank. Submerged fillpipes installed after November 9, 2006 must be no more than 6″ from the bottom of the tank.

Loading Rack Equipment List

LOADING RACK – EQUIPMENT LIST

Arm ID	Date of Construction	Rated Pump Capacity (gallons per minute)	[1] Monthly Throughput (gallons)	Materials Loaded (check all that apply)	[2] Loading Method (check one)
				❑ Gasoline[3] ❑ Fuel Oil [4] ❑ Other liquid:	❑ Top load, splash fill ❑ Submerged fill[5] (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill[5] to within 6″ of bottom
				❑ Gasoline[3] ❑ Fuel Oil [4] ❑ Other liquid:	❑ Top load, splash fill ❑ Submerged fill[5] (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill[5] to within 6″ of bottom
				❑ Gasoline[3] ❑ Fuel Oil [4] ❑ Other liquid:	❑ Top load, splash fill ❑ Submerged fill[5] (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill[5] to within 6″ of bottom
				❑ Gasoline[3] ❑ Fuel Oil [4] ❑ Other liquid:	❑ Top load, splash fill ❑ Submerged fill[5] (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill[5] to within 6″ of bottom
				❑ Gasoline[3] ❑ Fuel Oil [4] ❑ Other liquid:	❑ Top load, splash fill ❑ Submerged fill[5] (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill[5] to within 6″ of bottom
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				❑ Gasoline[3] ❑ Fuel Oil [4] ❑ Other liquid:	❑ Top load, splash fill ❑ Submerged fill[5] (i.e. drop tube) to within 12″ of bottom ❑ Submerged fill[5] to within 6″ of bottom

(1) Required for gasoline only. If unknown, report : "< 20,000".
(2) **Bottom filling is considered to be a type of submerged filling.**
(3) Includes all blends of gasoline (e.g. E10, E85, gasohol).
(4) Includes fuel oil grades No. 1 through No.6, kerosene, and diesel fuels.
(5) For arms loading gasoline, submerged fill pipes installed before November 9, 2006 must be no more than 12″ from the bottom of the tank. Submerged fill pipes installed after November 9, 2006 must be no more than 6″ from the bottom of the tank.

Gasoline Throughput Inventory Log

MONTHLY GASOLINE AND GASOLINE BLENDS THROUGHPUT LOG:
small bulk plant

Inspector Name: Sam Jones Inspector Signature:

Tank	Product Type	Opening Inventory	Amount Received	Amount Loaded Out	Closing Inventory (1)	Inspector Initials
Tank 1	gasoline	10,000	500	9,500	500	SB
Tank 2	gasoline blend - E85	15,000	0	15,000	0	SB
Tank 3	gasoline	25,000	5896	19,104	5896	SB
Tank 4	gasoline blend - E10					

Monthly Facility Totals: 6,396 Gallons

(1) The Closing Inventory is determined by: (opening inventory - amount loaded out + amount received).

Leak Inspection Monitoring Log

MONTHLY LEAK INSPECTION MONITORING LOG

(leak inspection monitoring should be conducted on the last day of each month for all equipment in gasoline service at the facility)

Inspector Name: Matthew Coolstein Inspector Signature: M. Coolstein

(1) List Equipment Type/Name	(2) **NO** Leaks Detected: Add Date and Inspector Initials	(3) **YES Leak Detected**: Add Date, then go to ***Leak Detection Repair Form(s)*** in back of calendar
Pump/Gas		Y - 8/14/09 MC
Pump/E85		Y - 8/14/09 MC
Connectors/Gas	N- 8/14/09 MC	
Connectors/E85	N- 8/14/09 MC	
Valve/Gas	N- 8/14/09 MC	
Valve/E85	N- 8/14/09 MC	
Open-ended Lines/Gas	N-8/14/09 MC	
Open-ended Lines/E85	N-8/14/09 MC	
Other (add as needed)		

(1) List the type of equipment in this column. All equipment in gasoline service must be monitored monthly including but not limited to all pumps, valves, open-ended lines, connectors, etc.
(2) If no leak is detected, enter "N", date inspected and inspector's initials.
(3) If a leak is discovered, enter "Y", date inspected and inspector's initials. You can use one of the Monthly Leak Detection Repair Forms (Work Order, Tag ID, Written Description, Maps or Pictures) to document leak detection and repair activity.

Leak Detection Monitoring Log

- Multiple options
  - Tagging system
  - Written descriptions
  - Photographs
  - Written work orders
  - Diagrams of operation

Leak Detection Monitoring Form

MONTHLY LEAK DETECTION REPAIR FORM – WORK ORDER

Inspector Name: Sam Brown Inspector Signature: _____

(1) List Equipment Type	Leak detected (y/n) & Date	(2) Location & ID of Leak	(3) Leak type (V/L)	(4) Method used & Inspector Initials	(5) Work Order # and Issue Date	(6) Repair Complete Date*
Pump/Gas	Y - 8/14/09	Arm 2	L	Sight - SB	WO 1254 8-14-09	8-24-09
Pump/E85	Y - 8/14/09	Tank 3	V	Smell - SB	WO 1255 8-14-09	8-24-09

(1) List the type of equipment in this column. All equipment in gasoline service must be monitored monthly including but not limited to all pumps, valves, open-ended lines, connectors, etc
(2) If a leak is discovered, enter the Arm or Tank ID Number where the leak was discovered (use ID numbers required in the air permit).
(3) Enter "V" for a vapor leak or "L" for a liquid leak.
(4) Enter method used: "Sight" or "Smell" or "Sound" and the initials of the inspector. If leak detection instrument is used enter "Instrument".
(5) Enter Work Order # and issue date.
(6) Enter repair complete date.
*If all repairs were made within 5 days of discovery and completed within 15 days, a Semiannual Report is not required. A sample Semiannual Report is found at the back of the calendar.

Possible Future Activities

- Assistance workshops
- Factsheets
- Newsletters
  - IWRC
  - DNR
  - PMCI
- List serves
- Webinars

General Contact Information

- NESHAP questions
  - **Christine Paulson – DNR Air Quality Bureau christine.paulson@dnr.iowa.gov or 515-242-5154**
- Permitting questions (not in Linn or Polk County)
  - **John Curtin- DNR, Air Quality Bureau john.curtin@dnr.iowa.gov or 515-281- 8012 or 1-877-AIR-IOWA (hotline)**
- Technical air assistance for small businesses
  - **Dan Nickey – UNI, Iowa Waste Reduction Center daniel.nickey@uni.edu or 319-273-8905**

Thank You

Questions?

http://www.iowadnr.gov/air/prof/NESHAP/